Conclusions: Despite early diagnosis of AAA, many operative candidates go on to rupture before repair. Improved mechanisms for surveillance are needed to prevent rupture and ensure timely repair for patients with AAA.

Table. Predictors of rupture despite early diagnosis adjusted for race, teaching hospital status, medical comorbidity, and year of repair

Variable	*OR (95% CI)*	P
Female sex	1.12 (0.88-1.43)	.36
Age at repair (per decade)	1.65 (1.36-1.98)	<.0001
Gaps in surveillance	5.97 (4.77-7.48)	<.0001
Hospital AAA volume		
Low	2.60 (1.41-4.81)	.002
High	0.68 (0.54-0.86)	.002
Moderate	1.00 (Ref)	. . .
Rural residence	1.14 (0.89-1.44)	.3
Medicaid-eligible	1.37 (0.93-2.00)	.12
Congestive heart failure	0.94 (0.57-1.53)	.79
Chronic lung disease	0.86 (0.67-1.10)	.22
Diabetes	0.64 (0.043-0.96)	.03
Cancer	1.04 (0.52-2.10)	.91

AAA, Abdominal aortic aneurysm; *CI,* confidence interval; *OR,* odds ratio.

Multibranched Endovascular Repair of Thoracoabdominal Aortic Aneurysm: Broadly Applicable or Niche Technique?

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Objective: This study estimated the prevalence of anatomy appropriate for multibranched endovascular aneurysm repair (MBEVAR) of thoracoabdominal aortic aneurysm (TAAA) as an indication of the potential scope of the technique.

Methods: Review was conducted of three-dimensionally reconstructed (TeraRecon software) computed tomograph angiograms (CTA) of a consecutive series of patients referred for treatment in a prospective trial of MBEVAR for TAAA.

Results: CTA images from 253 potential patients were reviewed. Of these, 50 TAAAs did not meet minimum diameter inclusion criteria, and 23 (11%) were anatomically unsuitable due to uncorrectable access issues or issues with the renal/visceral branches (aneurysm, dissection, multiplicity). Few patients were excluded for a single anatomic finding: 138 (68%) were anatomically suitable, and 42 (21%) were made anatomically suitable using a variety of open and endovascular adjunctive procedures at the time of definitive repair (n = 6) or staged (n = 36) at a mean interval of 38 ± 24 days. Iliac conduits were required in 26 patients, alone (n = 22) or in combination with another adjunctive procedure (n = 4). Twelve patients required renal artery stenting (four unilateral, five bilateral) or visceral artery stenting (n = 4), alone (n = 8) or combined with other adjunctive procedures (n = 4), or both. Three patients each underwent carotid-to-subclavian bypass, endovascular thoracoabdominal aortic repair, or complex multicomponent procedures. Of the 180 (89%) who were anatomically suitable or were made to be so, 101 patients were treated, 88 using the down-going branch technique, 13 with a combination of down-going and up-going branches, or fenestrations, or both. Standard profile devices (22F) were used in 91 procedures, and low-profile devices (18F) were used in 10 recent procedures. All procedures were technically successful, with the exception of one renal branch that could not be inserted, confirming the determination of appropriate anatomy. The remaining 79 patients await treatment, declined treatment after complete assessment, or never completed physiologic assessment.

Conclusions: Very few patients lack or cannot be provided with the anatomic substrate for successful MBEVAR of TAAA. The most common adjunctive procedure (iliac conduit) has become less frequent since the development of low-profile devices.